SEMIANNUAL PROGRESS REPORT

FORMER SAFETY-KLEEN CORP. SERVICE CENTER

GRIMES, IOWA

IAD 083489773

July 29, 2014

Project #: 039-004-013

SUBMITTED BY: Trihydro Corporation

1252 Commerce Drive, Laramie, WY 82070

Trihydro CORPORATION

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1.0 INTRODUCTION

Safety-Kleen Corp. (S-K) operated a branch service center at 5318 NW 111 Drive, Grimes, Iowa (Figure 1) from November 1975 to October 1992. The facility was operated under the Resource Conservation and Recovery Act (RCRA) interim status regulations (40 CFR 265), as a service center for the distribution of mineral spirits and the storage of spent mineral spirits, waste paint thinner, and other parts-cleaning solvents. The service center was an integral part of S-K's distribution/recycling network and did not include disposal facilities.

S-K terminated operations at the facility in October 1992 and the site is currently undergoing closure. Regional operations were relocated to a new facility in Des Moines, Iowa. The former service center is located in a small industrial park, which is zoned for commercial and industrial uses. Facilities surrounding the site consist of light industry and commercial businesses. This semiannual progress report provides a brief summary of background information, and describes closure activities and groundwater monitoring activities between January and June 2014.

1.1 FACILITY IDENTIFICATION

Name:	Safety-Kleen Corp. Branch Service Center 5-053-01
Facility Location:	5318 NW 111 Drive Grimes, IA 50111
Mailing Address:	1050 North 3rd Street, Suite M Laramie, WY 82072
USEPA Number:	IAD 083489773
Contact for Closure:	Senior Remediation Manager Safety-Kleen Systems, Inc.
Contact Telephone No:	(307) 742-6150

1.2 STATUS OF UNITS UNDERGOING CLOSURE

S-K operated both product and hazardous waste storage units at this facility. A 12,000-gallon spent mineral spirits underground storage tank (UST), 800-gallon spent mineral spirits sludge tank, return/fill station, drum storage area, and two self-contained waste transfer units were used to manage hazardous wastes at this facility. The facility did not include hazardous waste treatment or disposal units. A 12,000-gallon UST was used to manage product mineral spirits.

Due to the proximity of the USTs, closure of the product mineral spirits tank has been coordinated with the waste solvent tanks. Iowa Department of Natural Resources (IDNR) concurred that closure of the product mineral spirits tank should be coordinated with the RCRA interim status closure activities in a letter dated May 27, 1994.

United States Environmental Protection Agency (USEPA)-Region 7 approved the interim status facility closure plan in February 1994. Subsequently, the USTs and return/fill station were decontaminated and removed in 1994. The enclosed drum storage area and self-contained flammable materials storage units were also decontaminated in 1994. Pre-closure and current site plans are included as Figures 2 and 3, respectively.

1.2.1 DESCRIPTION OF UNITS WITH CLEAN CLOSURE CERTIFICATION

The drum storage area and waste transfer units have been decontaminated and certified closed in accordance with the approved facility closure plan. A closure certification report, which described closure of the drum storage area and waste transfer units, was submitted to USEPA-Region 7 on May 16, 1996. Clean closure certification for these former Hazardous Waste Management Units (HWMUs) was approved in correspondence dated May 30, 1996.

1.2.2 DESCRIPTION OF REMAINING UNITS UNDERGOING CLOSURE

The remaining waste management unit at this facility being closed under RCRA interim status includes one 12,000-gallon UST, associated piping, and appurtenances, which were used for the storage of spent mineral spirits (decontaminated and removed in March 1994). Additionally, the spent mineral spirits UST system included a sheltered containment area (return/fill station), with a 375-gallon wet dumpster and a drum washer (decontaminated and dismantled in March 1994). The return/fill station and components were considered part of the UST system.

An 800-gallon spent mineral spirits sludge tank was discovered during the excavation of soils surrounding the two 12,000-gallon USTs. This small sludge UST had been installed in-line following the return/fill station, to collect settleable solids and sediment prior to entering the 12,000-gallon spent solvent tank. Therefore, the sludge UST has also been considered a part of the 12,000-gallon waste mineral spirits UST system. The small sludge tank was decontaminated and managed (March 1994) in the same manner and under the same guidelines as the 12,000-gallon spent mineral spirits UST. Approximately 100 cubic yards (yd^3) of impacted soils were also excavated and transported offsite for disposal as part of the 1994 UST removal activities.

The 12,000-gallon product UST, which was used for distribution of product mineral spirits, existed immediately west of the spent mineral spirits UST (Figure 2). The product UST, associated piping, and appurtenances were not waste management units. However, the product UST system was decontaminated and removed at the same time

(March 1994) as the spent mineral spirits UST system. S-K has been managing closure of this product tank with the waste mineral spirits UST system.

1.2.3 REMEDIAL ACTION PLAN FOR REMAINING UNITS UNDERGOING RCRA CLOSURE

A preliminary approach to closure remediation, including additional assessment, was presented to USEPA-Region 7 in a remedial action plan (RAP) dated July 11, 1996. The additional closure assessment and remediation activities proposed in the July 1996 report were approved by the USEPA in correspondence dated November 12, 1996. Due to the low permeability of soils at the site, S-K proposed soil vapor/dual phase extraction (SVE/DPE) and excavation as a possible technique to remediate soil and groundwater quality impacts at this site. Full-scale implementation was considered contingent on the pilot test results and final USEPA approval. S-K completed pilot testing in May 1997. In general, evaluation of pilot testing results indicated that high-vacuum DPE might be able to exert an influence on the groundwater hydrology and soil vapor of the shallow subsurface environment; but that groundwater recovery rates may be slow due to the low permeability of soils at the site. S-K revised the RAP and submitted closure plan amendments in June and December 1998.

Based upon discussions with USEPA Region 7 and the IDNR, S-K modified the proposed RAP and submitted a corresponding closure plan amendment on April 6, 2001, including revised Clean Closure Objectives (CCOs). The proposed remedial approach consists of three phases integrated into a comprehensive remediation program:

Phase 1	Soil Excavation and Offsite Disposal/Treatment
Phase 2	High-Vacuum Soil Vapor/Groundwater Extraction
Phase 3	Extraction System Performance and Groundwater Monitoring

USEPA Region 7 approved the closure plan modification on July 18, 2001.

Phase 1 of the RAP was implemented in May 2000 and included the excavation of impacted soils in the immediate vicinity of the former USTs and return/fill station. Approximately 760 yd^3 (902 tons) of soil were excavated and transported offsite for disposal. Impacted groundwater (approximately 4,050 gallons) was also removed and disposed as part of the excavation activities. Confirmation samples collected from the sidewalls and bottom of the excavation contained concentrations below the USEPA approved CCOs and IDNR Tier 1 levels for Total Extractable Hydrocarbons (TEH). Results of the soil excavation and dewatering activities were summarized in a report dated July 28, 2000.

A high-vacuum soil vapor/groundwater extraction system was installed and commenced operation between October and December 2001 as Phase 2 of the proposed RAP. In general, the multi-phase vacuum extraction (MPVE) system consisted of eight extraction wells (two additional extraction wells were added to the system in June 2004), vacuum pump/blower, air/water separator, transfer pump, and two 3,000-gallon storage tanks. Extracted groundwater was temporarily stored onsite prior to being transported and treated at the Des Moines Wastewater Reclamation Facility in accordance with a discharge permit (No. B10102). S-K executed a treatment agreement with the City of Grimes on June 28, 2005 to allow discharge of extracted groundwater to the City of Grimes' wastewater collection and treatment system. Vapors from the system were discharged to the atmosphere in accordance with the terms of a Polk County, Iowa Permit. Additional information regarding the construction, installation, and operation of the MPVE system was presented in a semiannual progress report dated January 31, 2002.

S-K submitted a Modified Remedial Action Plan on February 10, 2009 (Trihydro 2009). As Part of the February 2009 Modified Remedial Action Plan, S-K proposed enhanced bioremediation activities to potentially enhance the attenuation of residual groundwater impacts. S-K met with USEPA on June 22, 2011 to discuss current site conditions and future remedial activities. As discussed during the meeting, the February 10, 2009 Modified Remedial Action Plan was not reviewed, and in the Semiannual Progress Report submitted July 29, 2011 S-K requested that the February 10, 2009 document be withdrawn. Additionally, as part of the July 29, 2011 Semiannual Progress Report, S-K requested that routine groundwater monitoring frequency be reduced from quarterly to semiannually. USEPA approved the semiannual frequency in a letter dated September 26, 2011. USEPA requested that future modifications be submitted in a letter.format and that a revised Remedial Action Plan will not be required. In May 2012, groundwater monitoring at monitoring wells MW-1, MW-2, and MW-4 though MW-9 indicated that remedial activities had been effective in reducing site-wide concentrations of target constituents to levels below CCOs. Therefore, in accordance with the April 2001 RAP, S-K shut down the MPVE system in November 2012. In May 2013, up-gradient monitoring well MW-1 could not be located and on July 31, 2013, S-K requested to discontinue sampling at this location. USEPA approved the request to discontinue sampling MW-1 in a letter dated September 30, 2013.

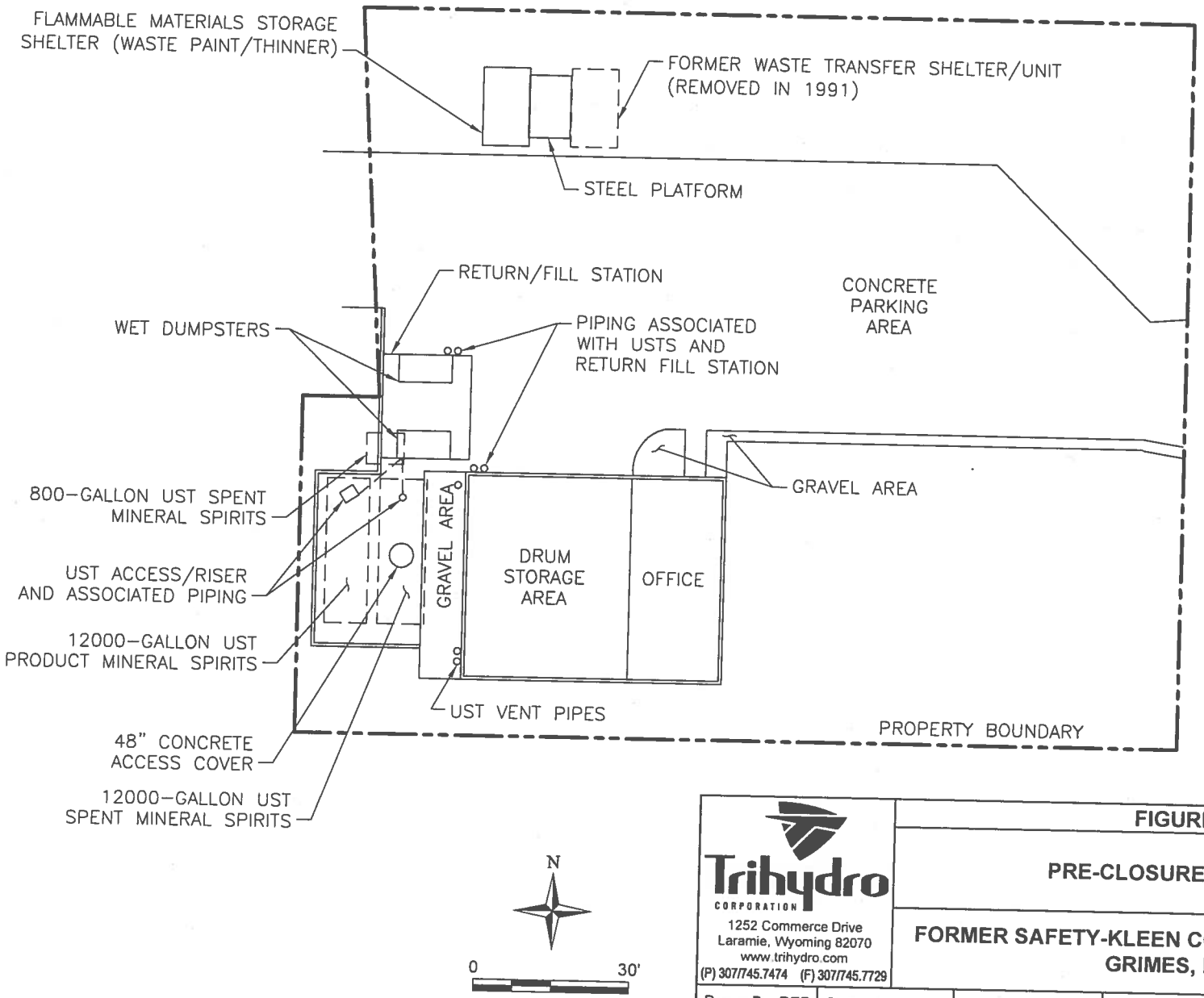
According to the 2001 RAP, post-extraction groundwater monitoring was to continue for up to three years after shut down. However, concentrations were observed to rebound one year later. Results from the groundwater monitoring event conducted in November of 2013 indicated tetrachloroethene (PCE) and 1,2-dichloroethene (1,2-DCE) were detected in the groundwater sample collected from monitoring well MW-4 at concentrations exceeding their respective CCOs (Trihydro 2014). The previously anticipated closure date of the former UST system was May 31, 2014. Based on the results from the November 2013 event, this date could not be met. In a letter dated May 7, 2014, S-K requested the closure period be extended to May 31, 2015. S-K prepared and submitted a Modified RAP, dated June 11, 2014 to USEPA, proposing enhanced bioremediation as a polishing step in lieu of restarting the MPVE system. S-K anticipates

receiving USEPA approval and/or comments regarding the June 2014 RAP during the July through December 2014 reporting period. S-K is currently conducting post-extraction semiannual groundwater monitoring as Phase 3 of the approved RAP (April 2001) (S-K 2001).

Additionally, in a letter to the USEPA dated April 3, 2014, S-K requested approval to collect samples using low-flow sampling methodology rather than bailer methods as approved in the 2001 RAP. Sampling using low flow sample collection method is expected to provide more accurate field measurements, specifically dissolved oxygen (DO) and oxidation/reduction potential (ORP), as part of the baseline sampling procedures proposed in the 2014 Modified RAP (S-K 2014), and for in subsequent sampling events. The USEPA approved the use of low flow sampling in a letter dated April 8, 2014 (USEPA 2014).

1.3 PURPOSE AND ORGANIZATION OF THIS REPORT

S-K is committed to completing closure of the former UST system at this facility. This document is being submitted as a semiannual progress report of post-extraction verification groundwater monitoring in accordance with the terms of the April 2001 RAP.



Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2

PRE-CLOSURE SITE PLAN

FORMER SAFETY-KLEEN CORP. SERVICE CENTER GRIMES, IOWA

Drawn By: REP	Checked By: JCB	Scale: 1" = 30'	Date: 1/7/09	File: 039SITE-PRE

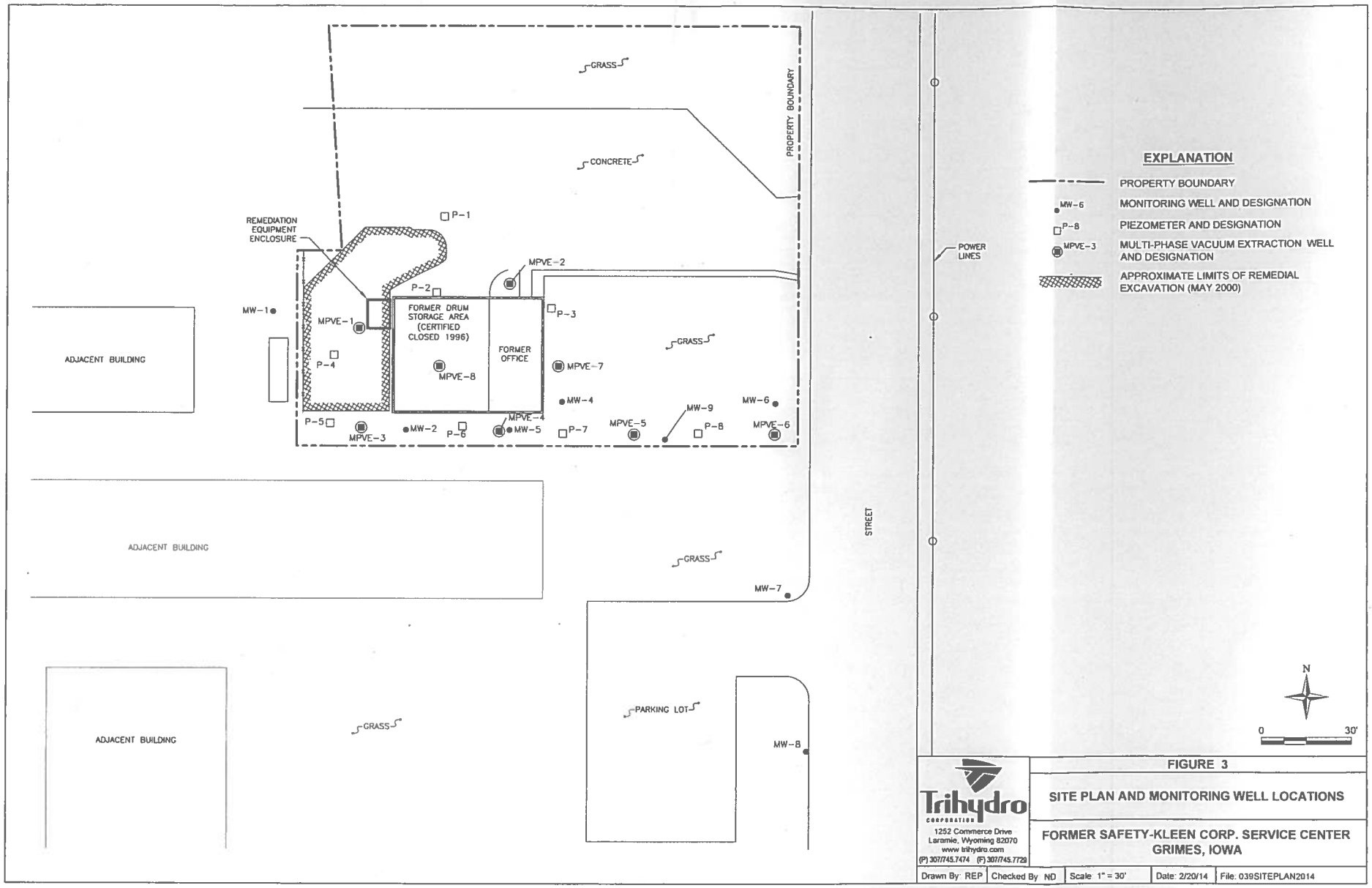


FIGURE 3

SITE PLAN AND MONITORING WELL LOCATIONS

FORMER SAFETY-KLEEN CORP. SERVICE CENTER
GRIMES, IOWA

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

Drawn By: REP	Checked By: ND	Scale: 1" = 30'	Date: 2/20/14	File: 039SITEPLAN2014